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| 10/629,754 | 07/30/2003 | Eugene Tokhtuev | APPR.0004 | 6808 |

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| EXAMINER | |
|---|---|
| ROSENBERGER, FREDERICK F | |
| **ART UNIT** | **PAPER NUMBER** |
| 2878 | |

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 10/629,754 | TOKHTUEV ET AL. |
| | Examiner | Art Unit |
| | Frederick F. Rosenberger | 2878 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *30 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *28-41* is/are allowed.

6)☒ Claim(s) *1-13 and 15-27* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/30/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Priority*

1. Applicant's claim to priority under 35 U.S.C. 119(e) for US provisional application 60/399436, filed on 7/31/2002, is acknowledged.

### *Information Disclosure Statement*

2. The information disclosure statement filed 7/30/2003 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Specifically the "Light Measurement Handbook: Graphing Data" has not been received. Further the citation of said reference is improper. See MPEP 707.05(e) for guidance in the citation of documents.

### *Drawings*

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **126A** (page 6, paragraph 37, line 3), **22** (page 6, paragraph 37, line 8), **L** (page 8, paragraph 41, line 22). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures

appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The abstract of the disclosure is objected to because of the following informalities: In line 3, a comma should be inserted after "body". In line 5, "an" should be --a--. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

On page 2, line 3 of paragraph 8, --of-- should be inserted between "exposure" and "the radiation".

On page 2, line 3 of paragraph 10, "accumulative" should be --accumulated--.

On page 3, line 2 of paragraph 13, --of-- should be inserted between "correction" and "the spectral".

On page 4, line 1 of paragraph 24, "a one" should be --an--.

On page 5, lines 18-19 of paragraph 34, the sentence beginning with "For some embodiments..." is a sentence fragment.

On page 6, line 12 of paragraph 37, page 9, lines 1-5, and page 9, line 3 of paragraph 43, "fluoropolimer" should be --fluoropolymer--.

On page 7, lines 10-11 of paragraph 40, the sentence beginning with "The adjustable insert..." is a sentence fragment.

On page 13, line 5 of paragraph 49, "radiation_detector" should be -- radiation detector--.

On page 15, line 6 of paragraph 54, "59A)" should be --59A--.

The above list is not meant to be exhaustive. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

6. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 4, applicant recites that the sapphire plate has a first portion with a diameter greater than that of the window and a second portion with a diameter equal to that of the window. However, applicant has not disclosed in the specification nor illustrated in the drawings this scenario.

### *Claim Objections*

8. Claims 2, 10, 15, 17, 28, 29, and 31 are objected to because of the following informalities:

In claim 2, line 1, "descried" should be --described--.

In claim 10, line 3, the positive recitation of "the window" lacks proper antecedent basis in the body of the claim or in the parent claim(s), upon which it depends. Proper antecedent basis can be established by making parent claim 6 dependent upon claim 2.

In claim 15, line 2, "an" should be --a--.

In claim 17, line 1, "RS 232" should be -- RS-232 --.

In claim 28, line 2, "cavity" should be --cavities--.

In claim 28, line 6, a semicolon should be placed after "detector" and "detecting" should be the beginning of a new line.

In claim 29, line 3, "for" should be --to--.

In claim 31, line 2, "accommodates" should be --to accommodate--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 15 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specifications fail to teach how the housing would have both a housing lid with a first window and a second window in the housing itself as well as the purpose such a setup would serve, per the limitations of claim 15. The specifications further fail to teach how the first cavity of the attenuator would have openings adjacent to the first and second windows. While applicant has presented a multi-input scenario (see Figure 6), such a scenario does not include a lid or windows, only apertures.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 7 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claim 7, applicant recites that the light is directed from each of the secondary cavities to a respective detector with a different spectral range of sensitivity. Per the limitations of parent claims 1 and 6, there is a first cavity and at least one secondary cavity inside the attenuator. Thus a first cavity and a single secondary cavity would fulfill the above limitations, in which case there would only be a single detector necessitating only a single spectral range of sensitivity. With that in mind, it

would be unclear from the claim language as to what the spectral range of sensitivity would be different from. For the purposes of this Office action, it has been interpreted that a single secondary cavity directing light to a single detector with a given spectral range of sensitivity would fulfill this limitation.

With regards to claim 24, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 24 recites the broad recitation of the current being not more than 1.0 mA, and the claim also recites the current being not more than 0.8 mA which is the narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1, 2, 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Schroeder (US Patent # 6,188,063).

Schroeder discloses a radiation sensor comprising:

A housing **40** (Figure 2) having a housing lid **5** having an aperture, with a window in the form of lens **15**;

An attenuator, in the form of plug **30**, aperture disk **45**, spacer **50**, and filter **52**, consisting of a first cavity **50'** and a second cavity **53'** (Figure 3B), wherein the means for transferring radiation between cavities is semitransparent transmission through the final attenuator element, and the second cavity directs light to the detector;

And a detector **52** with a given spectral sensitivity provided by the filter **52** for detecting UV radiation (column 7, lines 13-15).

15. Claims 1, 2, 6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayes et al. (US Patent # 5,514,871).

Hayes et al. disclose a radiation sensor comprising:

A housing **30** (Figure 2) having a housing lid **45** having an aperture , with a window **40**;

An attenuator, in the form of spacer **50**, aperture disk **60**, spacer **70**, baffle **80**, and spacer **90**, consisting of a first cavity formed by the spacer **50**, a second cavity formed by the spacer **70**, and a third cavity formed by the spacer **90**, wherein the means for transferring radiation between the first cavity and the second cavity consists of transmission through an opening in the aperture disk **60**;

And a detector **120** for detecting UV radiation (column 3, lines 45-46).

16. Claims 1, 6, 9, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by May (US Patent # 5,382,799, hereinafter referred to as May '799).

May '799 discloses a radiation sensor comprising:

A housing **15** (Figure 2);

An attenuator, in the form of adapter **17**, recess **20**, recess **22**, O-ring **24**, diffuser window **25**, diffuser **26**, O-ring **28**, aperture **27**, and filter **29**, wherein a first cavity is formed by the adapter, a second cavity is formed by the O-ring seated in recess **20** (column 3, lines 46-50), a third cavity is formed by the communicating recess **22**, a fourth cavity is formed by O-ring **24** in recess **23**,

and a fifth cavity is formed by O-ring **28**, wherein the means for transferring radiation between the first and second cavities is through a mutual opening;

A detector, mounted in projection **32** (column 3, lines 64-66), for detecting UV radiation;

Signal conditioning and processing circuitry including amplifiers and a controller with analog to digital converters (column 4, lines 22-43);

And push button **13** (Figure 1A), memory **50** (Figure 4), and a display **14** (Figure 1B).

17. Claims 1 and 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by May (US Patent # 6,278,120, hereinafter referred to as May '120).

May '120 discloses a radiation sensor comprising:

A housing **21** (Figure 2A);

An attenuator, in the form of diffuser **22**, diffuser **23**, spacer **27**, filter **25,** filter **26** and spacer **29**, wherein a first cavity is formed by the spacer **27** and a second cavity is formed by the spacer **29**, wherein the means for transferring radiation between the first and second cavities is through semitransparent transmission through optical filters **25** and **26,** and the second cavity directs light to the detector;

And a detector **28** with a given spectral sensitivity provided by the filters **25** and **26** for detecting UV radiation (column 3, lines 18-20).

***Claim Rejections - 35 USC § 103***

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeder (US Patent # 6,188,063), as applied to claims 1, 2, and 6 above, in view of Castleman (US Patent # 6,239,435).

With regards to claims 3, Schroeder discloses that the material for the window/lens may be composed of any suitable radiation transmissive material, such as quartz (column 4, lines 40-42). Schroeder does not specifically disclose a sapphire window/lens. Castleman shows that the use of quartz is equivalent to the use of sapphire for window lenses in UV detectors and that these materials were selected for their low bulk absorption characteristics for UV wavelengths (column 12, lines 38-40). Therefore, because these two materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute sapphire for quartz.

With regard to claim 4, Schroeder disclose that the window has only one diameter. It would have been obvious matter of design choice to make the window with two different diameters, since applicant has not disclosed that the using two different diameters for the plate comprising the window solves any stated problem or is for any

particular purpose and it appears that the invention would perform equally well with a single diameter plate for the window.

With regards to claim 5, in addition to the material argument given above in reference to claim 3, Schroeder discloses that the window is a lens, but fails to describe the lens as a positive lens. However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use a positive lens so as to focus light from the region of interest into the attenuator-detector assembly, as is well known in the art.

20. Claims 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeder (US Patent # 6,188,063), as applied to claims 1, 2, and 6 above.

With regards to claim 17, Schroeder teaches that the sensing assembly **1'** is connected with a controller through a signal cable assembly **1''** (Figure 1) but does not address the type of signal connection or the transmission means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use RS-232 communication means and provide the sensing assembly with the appropriate RS-232 connector since RS-232 is a well known standard for connecting base computers to peripheral devices.

With regards to claim 18-23, Schroeder teaches the use of a UV detecting photodiode **52** along with a filter **51** (column 6, lines 12-16). Schroeder further discloses that the filter may be any radiation transmissive material sensitive to a desired wavelength band, such as quartz (column 6, lines 17-20), so that the photodiode

receives only UV light. However, Schroeder fails to disclose the claimed photodiode materials or the claimed filter materials and sizes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the appropriate material for the photodiode and the filter, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. It would have been further obvious to one having ordinary skill in the art at the time the invention was made to choose the filter thickness to be between 1 and 4 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

With regards to claim 24, Schroeder is silent with regards to the optimum range for the detector current signal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the average signal to be less than 1.0mA, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

21. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes et al. (US Patent # 5,514,871), as applied to claims 1, 2, and 6 above, in view of Castleman (US Patent # 6,239,435).

With regards to claims 3, Hayes et al. disclose that the material for the window may be quartz (column 3, lines 11-22). Hayes et al. do not specifically disclose a sapphire window/lens. Castleman shows that the use of quartz is equivalent to the use of sapphire for window lenses in UV detectors and that these materials were selected for their low bulk absorption characteristics for UV wavelengths (column 12, lines 38-40). Therefore, because these two materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute sapphire for quartz.

With regard to claim 4, Hayes et al. disclose that the window has only one diameter. It would have been obvious matter of design choice to make the window with two different diameters, since applicant has not disclosed that the using two different diameters for the plate comprising the window solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a single diameter plate for the window.

With regards to claim 5, in addition to the material argument given above in reference to claim 3, Hayes et al. do not disclose that the window is a positive lens. However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use a positive lens for the window so as to focus light from the region of interest into the attenuator-detector assembly, as is well known in the art.

22. Claims 10-12 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes et al. (US Patent # 5,514,871), as applied to claims 1, 2, and 6 above.

With regards to claim 10, Hayes et al. disclose that the attenuator comprises several elements, not a unitary body. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the elements comprising the attenuator into an attenuator body since it has been held that making as one piece separate structures without producing any new and unexpected result involves only routine skill in the art. In re Larson, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). Hayes et al. disclose that the attenuator elements (i.e. spacer **50**, aperture disk **60**, spacer **70**, baffle **80**, and spacer **90**) may be constructed of stainless steel (column 3, lines 22-25; column 4, lines 2-4). Hayes et al. further disclose that the first cavity formed by spacer **50** has an opening adjacent the window **40**. A secondary cavity, formed by space **90** has an opening adjacent to the assembly consisting of the filter **110** and the detector **120**.

With regards to claim 11, although not disclosed by Hayes et al., it is well known in the art that semitransparent media can be used in placed of apertures to reduce the intensity of electromagnetic radiation propagating therethrough.

With regards to claim 12, Hayes et al. disclose that the means for transferring radiation between the first cavity and the second cavity consists of transmission through an opening in the aperture disk **60**.

With regards to claim 17, Hayes et al. are silent with regards to any communication between the sensor and external circuitry, although some connection to external circuitry is necessary (column 3, lines 9-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use RS-232 communication means and provide the sensing assembly with the appropriate RS-232 connector since RS-232 is a well known standard for connecting base computers to peripheral devices.

With regards to claim 18-23, Hayes et al. teach the use of a UV detecting photodiode **120** along with a filter **110** (column 3, lines 40-50). Hayes et al. further disclose that the filter may be a colored glass or interference filter (column 3, lines 40-45), so that the photodiode receives only UV light. However, Hayes et al. fail to disclose the claimed photodiode materials or the claimed filter materials and sizes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the appropriate material for the photodiode and the filter, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. It would have been further obvious to one having ordinary skill in the art at the time the invention was made to choose the filter thickness to be between 1 and 4 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

With regards to claim 24, Hayes et al. are silent with regards to the optimum range for the detector current signal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the average signal to be less than 1.0mA, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

23. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeder, as applied to claim 1 above, and further in view of Huber et al. (US Patent # 4,825,078).

Schroeder discloses the claimed invention, as described above with regards to claim 1, but fails to provide for a temperature sensor, per the limitations of claim 25.

Huber et al. teach a radiation sensor comprising a housing, filter, and detector, wherein a temperature sensor **80** (Figure 1) to monitor the temperature of the device. As Huber et al. point out, temperature effects can shorten the life of radiometer (column 1, lines 26-29). Thus, providing a sensor to monitor the temperature of the radiation sensor would allow one to track and account for aging effects caused temperature variations.

It would have been obvious for a person having ordinary skill in the art at the time the invention was made to include a temperature sensor in the radiation sensor of Schroeder so as to account for temperature aging effects of the radiation sensor and improve the detection accuracy, as taught by Huber et al.

24. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes et al., as applied to claim 1 above, and further in view of Huber et al. (US Patent # 4,825,078).

Hayes et al. disclose the claimed invention, as described above with regards to claim 1, but fails to provide for a temperature sensor, per the limitations of claim 25.

Huber et al. teach a radiation sensor comprising a housing, filter, and detector, wherein a temperature sensor **80** (Figure 1) to monitor the temperature of the device. As Huber et al. point out, temperature effects can shorten the life of radiometer (column 1, lines 26-29). Thus, providing a sensor to monitor the temperature of the radiation sensor would allow one to track and account for aging effects caused temperature variations.

It would have been obvious for a person having ordinary skill in the art at the time the invention was made to include a temperature sensor in the radiation sensor of Hayes et al. so as to account for temperature aging effects of the radiation sensor and improve the detection accuracy, as taught by Huber et al.

***Allowable Subject Matter***

25. Claims 28-41 are allowed.

26. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

27. The following is a statement of reasons for the indication of allowable subject matter:

Claim 14 includes the limitation of a moveable cylindrical insert inside the first cavity that enables adjustment of the radiation passing from the first cavity to the secondary cavity. The prior art fails to teach or reasonably suggest the inclusion of such an insert in the cavity of a radiation sensor.

Claim 28 is directed to a method for sensing UV radiation, wherein a radiation attenuator with at least two cavities and means for transferring radiation from a first cavity to a secondary cavity inside the attenuator can be adjusted such that the radiation impinging on a detector is at a predetermined level. The prior art fails to teach or reasonably suggest a method wherein the means for transferring radiation from one cavity to another within an attenuator of UV radiation can be adjusted.

Claim 33 is directed to an optical attenuator with at least one attenuating cavity and with means for transferring radiation inside of the attenuator body and to an external detector. Although attenuators are known in the art, the prior art fails to teach or reasonably suggest the cavity of the attenuator body having an entrance with one multi-stage input opening or plural input openings.

As such, applicant's disclosure provides a novel and nonobvious improvement over the prior art. Accordingly, claims 14, 28, and 33, along with their associated dependent claims, would be allowable.

***Conclusion***

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick F. Rosenberger whose telephone number is 571-272-6107. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frederick F. Rosenberger
Patent Examiner
GAU 2878

DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800